

Title (en)

CRYSTAL PRODUCTION PROCESS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON KRISTALLEN

Title (fr)

PROCESSUS DE PRODUCTION DE CRISTAUX

Publication

**EP 4212652 A4 20240320 (EN)**

Application

**EP 21866051 A 20210909**

Priority

- CN 202010948861 A 20200910
- CN 2021117537 W 20210909

Abstract (en)

[origin: EP4212652A1] A method of growing the ingot, including following steps: S1, providing an initial charge into a crucible; S2, heating the crucible to melt the initial charge, and after a set time, rotating the crucible at a rotation speed within a set speed range; S3, after a melting process of the charge is completed, descending a feed device to the position above the melt level in the crucible and a distance between feed device and the melt level being h, the feed device including a feed tube, and the feed tube adding a charge into a feed zone of the crucible; and S4, feeding in the feed zone, and growing an ingot in a growth zone. In S1, the initial charge is respectively loaded into a first chamber, a second chamber and a third chamber, and a particle diameter of the initial charge in the first chamber is greater than a particle diameter of the initial charge in the second chamber and in the third chamber. The production process can make the melt in the crucible more uniform, which is beneficial for improving the ingot quality.

IPC 8 full level

**C30B 15/00** (2006.01); **C30B 15/12** (2006.01)

CPC (source: CN EP US)

**C30B 15/002** (2013.01 - CN EP); **C30B 15/04** (2013.01 - US); **C30B 15/12** (2013.01 - EP US); **C30B 15/22** (2013.01 - US); **C30B 15/30** (2013.01 - US); **C30B 30/04** (2013.01 - US); **C30B 35/002** (2013.01 - US)

Citation (search report)

- [I] WO 2016014792 A1 20160128 - SUNEDISON INC [US]
- [A] JP S63303894 A 19881212 - MITSUBISHI METAL CORP
- [A] US 2018187329 A1 20180705 - ZEPEDA SALVADOR [US], et al
- See also references of WO 2022052999A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 4212652 A1 20230719**; **EP 4212652 A4 20240320**; CN 112210820 A 20210112; TW 202223173 A 20220616; TW I781759 B 20221021; US 2023340692 A1 20231026; WO 2022052999 A1 20220317

DOCDB simple family (application)

**EP 21866051 A 20210909**; CN 202010948861 A 20200910; CN 2021117537 W 20210909; TW 110133745 A 20210910; US 202118025649 A 20210909